

Abstract of the Disclosure

[0076] A laser bruting machine has three sections: (i) a diamond holder, (ii) a set up device and (iii) a processing device. The diamond holder includes a rough diamond, a stitching die and a magnetic die. The rough diamond stone to be centered and bruted is stitched on top of the stitching die by adhesive and heat. The stitching die is then fixed on top of the magnetic die. The setup device includes a computer numerical control (CNC) interface and video system. The diamond to be centered, and hence the diamond holder, is put vertically on motorized rotatable platform. After completion of centering the diamond, the diamond holder is carried to a processing device and fixed horizontally on a motorized rotatable platform of the processing device. The processing device includes a CNC interface, a heat exchanger, a video system, a beam delivery mechanism, a laser source, an RF-Q switch driver, a power supply and a stabilizer. The beam delivery mechanism of the processing device includes (i) a bruting process system and (ii) a girdle polishing system. With standard software, the computer suggests an optimal cut to provide an accurate rounded shape of the diamond by taking the dimensions the shape of the diamond into account.